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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/660,499	09/12/2003	Jong Seob Lee	20020-02USA	5678

7590 01/27/2006

JHK Law
P.O. Box 1078
La Canada, CA 91012-1078

EXAMINER	
PAGE, BRENT T	

ART UNIT	PAPER NUMBER
1638	

DATE MAILED: 01/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/660,499	LEE ET AL.	
	Examiner	Art Unit	
	Brent Page	1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 December 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) *14-16* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 3-13* is/are rejected.

7)☒ Claim(s) *2* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *09/12/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☒ Other: Sequence search results

DETAILED ACTION

Claims 14-16 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected Invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 12/22/2005.

Applicant's election with traverse of Invention I in the reply filed on 12/22/2005 is acknowledged. The traversal is on the ground(s) that all of the inventive groups revolve around the same gene and its product and therefore an undue burden is not placed on the examiner for searching and considering all inventive entities. This is not found persuasive because the claims of Invention II are drawn to an unidentified "compound" which would require a different search than the nucleic acid molecules of Invention I. Additionally, Invention III would require the search of an unidentified nucleic acid that is different in chemical structure and function from the nucleic acid of Invention I.

The requirement is still deemed proper and is therefore made FINAL.

Specification

The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code. The embedded hyperlink occurs on page 29 of the specification. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

Claims 9 and 12 are objected because of the following informalities: Applicant claims "cells with regenerate into a whole plant" which appears to be a mistyping of the word ---which---. It is suggested that Applicant either correct the spelling of the word "with" so that it is replaced with the intended word, or reword the claim that is consistent with the specification that will particularly point out the intended invention of claims 9 and 12.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 7 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claim is broadly drawn to a seed from a transgenic plant. However, due to Mendelian inheritance of the transgene, some seeds produced by a transgenic plant will not have a copy of the transgene, and will thus be indistinguishable from naturally occurring seeds. Accordingly, the claim is drawn to a product of nature, which is non-statutory subject matter.

See Diamond v. Chakrabarty, 447 U.S. 303 (1980), Funk Bros. Seed Co. V. Kalo inoculant Co., 233 U.S. 127 (1948), and American Fruit Growers v. Brogdex Co., 283 U.S. 2 (1931).

This rejection can be overcome by amendment of claim 7 to indicate that the seed comprises said isolated polynucleotide.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 8-10 and 11-13 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: a positive recitation of a particular method step involving regenerating a whole plant and assaying for a particular trait. Absent this method step, claims 8-10 claiming a method for enhancing root growth of a plant and claims 11-13, claiming a method for enhancing resistance in a plant to obstacle-touching stress may not be differentiated from a method of transforming a plant cell and are interpreted by the Examiner as methods of transforming a plant cell.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before

> the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, and 3-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Doerner et al (US patent 6166293).

Claim 1 discloses an isolated polynucleotide wherein the polypeptide comprising "an" amino acid sequence set forth in SEQ ID NO: 2 or an amino acid sequence with at least 90% sequence homology to SEQ ID NO: 2. Claims 4-6 disclose a recombinant vector, a cell, and a plant all of which comprise the polynucleotide of claim 1. Claim 3 discloses the polynucleotide of claim 1, having a root specific expression pattern. Claim 7 discloses a plant tissue or seed derived from said plant. Claims 8-13 disclose a method comprising the step of introducing a polynucleotide of claim 1 into the plant cell wherein the polynucleotide is operably linked to an expression control sequence, wherein said plant cell is selected from the group consisting of protoplasts, gamete producing cells and cells which regenerate into a whole plant, wherein said plant is either a monocot or dicot. Examiner is interpreting the word "with" in claim 9 as a typing error of the word "which", in order to most reasonably interpret claim 9.

Doerner et al teach a method of producing a genetically modified plant exhibiting increased root growth, the transgenic plant from said method, tissue and seeds from said plant, and a vector containing a nucleic acid sequence which encodes a cyclin polypeptide (see claims 1, 2, 6, 14-17, 22, 35-36, for example). The cyclin polypeptide comprises "an" amino acid sequence set forth

in SEQ ID NO: 2 of the current application wherein the term "an" is interpreted by the Examiner to include any amino acid sequence set forth by SEQ ID NO: 2 including a single amino acid residue.

If Applicant wishes to limit the claim by replacing "an" in the second line of claim 1 with the word ---the---, this rejection would be overcome.

Claims 1, and 3-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Liu et al (US Patent Publication No. 20040034888 filed 28 April 2003, effectively filed 6 May 1999).

Claim 1 discloses an isolated polynucleotide wherein the polypeptide comprising an amino acid sequence set forth in SEQ ID NO: 2 or an amino acid sequence with at least 90% sequence homology to SEQ ID NO: 2. Claims 4-6 disclose a recombinant vector, a cell, and a plant all of which comprise the polynucleotide of claim 1. Claim 3 discloses the polynucleotide of claim 1, having a root specific expression pattern. Claim 7 discloses a plant tissue or seed derived from said plant. Claims 8-13 disclose a method comprising the step of introducing a polynucleotide of claim 1 into the plant cell wherein the polynucleotide is operably linked to an expression control sequence, wherein said plant cell is selected from the group consisting of protoplasts, gamete producing cells and cells which regenerate into a whole plant, wherein said plant is either a monocot or dicot. Examiner is interpreting the word "with" in claim 9 as a typing error of the word "which", in order to most reasonably interpret claim 9.

Liu et al teach a recombinant DNA vector, a cell and a plant comprising an isolated polynucleotide SEQ ID NO: 10567 which encodes an amino acid sequence that is 99.7% identical to the amino acid sequence set forth in SEQ ID NO: 2 as well as a method comprising the transformation of a plant, monocotyledonous or dicotyledonous comprising the introduction of a polynucleotide of SEQ ID NO: 10567 wherein the polynucleotide is operably linked to an expression control sequence and the plant cell may be selected from protoplasts, gamete producing cells and cells which regenerate into a whole plant and the selection of the desired trait by growing tissue culture or seeds and selecting plants the exhibit the desired trait (paragraphs 66-82 for example, as well as claims 1-3; see also appended sequence search results). The root-specific expression pattern of the sequence disclosed by Liu et al, is inherent as evidenced by the high degree of sequence homology wherein the amino acid sequence homology predicted by the two polynucleotides is 99.7%.

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Allowable Subject Matter

Claim 2 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As allowable subject matter has been indicated, applicant's reply must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 CFR 1.111(b) and MPEP § 707.07(a).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brent Page whose telephone number is (514)-272-5914. The examiner can normally be reached on Monday-Friday 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached on (571)-272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brent T Page

DAVID T. FOX
PRIMARY EXAMINER
GROUP ~~180~~ 1638

GenCore version 5.1.6

OM protein - nucleic search, using frame_plus_p2n model

Run on: January 11, 2006, 21:42:08 ; Search time 828 Seconds
(without alignments)
2546.729 Million cell updates/sec

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Listing first 45 summaries

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	1399	99.7	1134	7	US-10-425-114-10567	Sequence 10567, A
2	1399	99.7	1510	7	US-10-424-599-48351	Sequence 48351, A
3	1043	74.3	1010	7	US-10-425-114-26569	Sequence 26569, A
4	1043	74.3	1029	7	US-10-425-114-17012	Sequence 17012, A
5	1043	74.3	1135	8	US-10-425-115-170810	Sequence 170810,
6	1042	74.3	1053	7	US-10-425-114-28800	Sequence 28800, A
7	1039	74.1	1187	7	US-10-437-963-100529	Sequence 100529,
8	987	70.3	940	7	US-10-437-963-76499	Sequence 76499, A
9	971.5	69.2	1204	7	US-10-437-963-29573	Sequence 29573, A
10	944	67.3	576	7	US-10-021-323-1681	Sequence 1681, Ap
11	944	67.3	601	7	US-10-021-323-1684	Sequence 1684, Ap
12	936.5	66.7	1046	7	US-10-437-963-33939	Sequence 33939, A
13	928.5	66.2	1998	7	US-10-437-963-31386	Sequence 31386, A
14	920	65.6	789	7	US-10-437-963-94781	Sequence 94781, A
15	920	65.6	843	7	US-10-437-963-93722	Sequence 93722, A
16	919	65.5	765	7	US-10-767-701-14995	Sequence 14995, A
17	914.5	65.2	837	7	US-10-437-963-94782	Sequence 94782, A
18	913	65.1	1455	7	US-10-425-114-8434	Sequence 8434, Ap
19	911.5	65.0	1173	7	US-10-424-599-105712	Sequence 105712,
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21	906	64.6	904	7	US-10-260-238-951	Sequence 951, App
22	905	64.5	1275	7	US-10-424-599-95744	Sequence 95744, A
23	901	64.2	756	7	US-10-437-963-38542	Sequence 38542, A
24	900.5	64.2	2199	9	US-10-481-032A-666	Sequence 666, App
25	900.5	64.2	2343	7	US-10-437-963-31393	Sequence 31393, A
26	898	64.0	1276	8	US-10-739-930-1086	Sequence 1086, Ap
27	894.5	63.8	1327	7	US-10-437-963-102044	Sequence 102044,
28	892.5	63.6	956	7	US-10-425-114-10409	Sequence 10409, A
29	892.5	63.6	1372	7	US-10-424-599-103923	Sequence 103923,
30	890.5	63.5	753	3	US-09-938-842A-91	Sequence 91, Appl
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33	885	63.1	1302	7	US-10-425-114-8720	Sequence 8720, Ap
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35	881	62.8	1389	8	US-10-425-115-93870	Sequence 93870, A
36	879	62.7	735	6	US-10-259-194A-609	Sequence 609, App
37	878	62.6	1295	7	US-10-424-599-126339	Sequence 126339,
38	876.5	62.5	747	3	US-09-938-842A-1069	Sequence 1069, Ap
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45	864.5	61.6	768	7	US-10-437-963-4774	Sequence 4774, Ap

ALIGNMENTS

RESULT 1
US-10-425-114-10567
; Sequence 10567, Application US/10425114
; Publication No. US20040034888A1
; GENERAL INFORMATION:
; APPLICANT: Liu, Jingdong
; APPLICANT: Zhou, Yihua
; APPLICANT: Kovalic, David K.
; APPLICANT: Screen, Steven E
; APPLICANT: Tabaska, Jack E
; APPLICANT: Cao, Yongwei
; TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
; TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
; FILE REFERENCE: 38-21(53313)B
; CURRENT APPLICATION NUMBER: US/10/425,114
; CURRENT FILING DATE: 2003-04-28
; NUMBER OF SEQ ID NOS: 73128
; SEQ ID NO 10567
; LENGTH: 1134
; TYPE: DNA
; ORGANISM: Glycine max
; FEATURE:
; OTHER INFORMATION: Clone ID: 700944591_PLI
US-10-425-114-10567

Alignment Scores:

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DB:                    7              Gaps:          0

US-10-660-499A-2 (1-255) x US-10-425-114-10567 (1-1134)

Qy          1 MetGlyLysIleMetLeuValLeuGlySerLeuIleGlyLeuCysCysPheThrIleThr 20
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Db        161 ATGGGCAAAATCATGCTTGTTTTGGGTAGCCTCATTGGATTATGCTGTTTCACAATCACT 220

Qy         21 ThrTyrAlaPheSerProSerGlyTrpThrAsnAlaHisAlaThrPheTyrGlyGlySer 40
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        221 ACCTATGCCTTCTCACCTTCTGGATGGACCAATGCCCATGCCACTTTTTATGGGGGTAGT 280

Qy         41 AspAlaSerGlyThrMetGlyGlyAlaCysGlyTyrGlyAsnLeuTyrAlaThrGlyTyr 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        281 GATGCTTCAGGAACTATGGGGGGAGCTTGTGGGTATGGGAATCTGTATGCAACTGGGTAT 340

Qy         61 GlyThrArgThrAlaAlaLeuSerThrAlaLeuPheAsnAspGlyAlaSerCysGlyGln 80
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        341 GGAACTAGAACTGCAGCTTTAAGCACTGCCTTATTTAATGATGGAGCTTCCTGTGGTCAG 400

Qy         81 CysTyrLysIleIleCysAspTyrLysSerAspSerArgTrpCysIleLysGlyArgSer 100
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        401 TGCTACAAAATTATATGTGATTACAAATCAGACTCTAGATGGTGCATCAAAGGAAGATCT 460

Qy        101 ValThrValThrAlaThrAsnPheCysProProAsnPheAlaLeuProAsnAsnAsnGly 120
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Db        461 GTAACCGTAACTGCCACAAACTTTTGCCCTCCCAATTTCGCCCTTCCTAACAACAATGGA 520

Qy        121 GlyTrpCysAsnProProLeuLysHisPheAspMetAlaGlnProAlaTrpGluLysIle 140
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        521 GGCTGGTGCAACCCACCACTCAAGCATTTTGATATGGCCCAACCCGCTTGGGAAAAGATT 580

Qy        141 GlyIleTyrArgGlyGlyIleValProValLeuPheGlnArgValProCysLysLysHis 160
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Qy        161 GlyGlyValArgPheSerValAsnGlyArgAspTyrPheGluLeuValLeuIleSerAsn 180
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Qy        181 ValGlyGlyAlaGlySerIleGlnSerValPheIleLysGlySerLysThrGlyTrpMet 200
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Db        701 GTGGGGGGTGCTGGATCCATCCAATCAGTGTTCATTAAAGGCTCAAAAACTGGATGGATG 760

Qy        201 AlaMetSerArgAsnTrpGlySerAsnTrpGlnSerAsnAlaTyrLeuAsnGlyGlnSer 220
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        761 GCAATGTCAAGAAATTGGGGTTCTAATTGGCAATCCAATGCGTATTTGAATGGTCAATCT 820

Qy        221 LeuSerPheArgValThrThrThrAspGlyGluThrArgValPheGlnAspIleValPro 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        821 TTGTCCTTCAGGGTCACCACCACTGATGGAGAGACCAGAGTTTTCCAAGATATTGTTCCA 880

Qy        241 ValSerTrpThrPheGlyGlnThrPheSerSerProValGlnPhe 255
                  ||||||||||||||||||||||||||||||||||||||||||
Db        881 GCAAGTTGGACATTCGGCCAAACTTTCTCTAGCCCAGTTCAGTTC 925

RESULT 2
US-10-424-599-48351
; Sequence 48351, Application US/10424599
; Publication No. US20040031072A1
; GENERAL INFORMATION:
;  APPLICANT: La Rosa Thomas J
;  APPLICANT:  Kovalic David K
;  APPLICANT:  Zhou Yihua
;  APPLICANT:  Cao Yongwei
;  TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
;  TITLE OF INVENTION:  Plants and Uses Thereof for Plant Improvement
;  FILE REFERENCE: 38-21(53223)B
;  CURRENT APPLICATION NUMBER: US/10/424,599
;  CURRENT FILING DATE:  2003-04-28
;  NUMBER OF SEQ ID NOS: 285684
; SEQ ID NO 48351
;   LENGTH: 1510
;   TYPE: DNA
;   ORGANISM: Glycine max
;   FEATURE:
;   NAME/KEY: unsure
;   LOCATION: (1)..(1510)
;   OTHER INFORMATION: unsure at all n locations
;   FEATURE:
;   OTHER INFORMATION: Clone ID: PAT_MRT3847_14667C.1
US-10-424-599-48351

Alignment Scores:
Pred. No.:              1.35e-163      Length:          1510
Score:                  1399.00        Matches:         254
Percent Similarity:     99.61%         Conservative:    0
Best Local Similarity:  99.61%         Mismatches:      1
Query Match:            99.71%         Indels:          0
DB:                     7              Gaps:            0

US-10-660-499A-2 (1-255) x US-10-424-599-48351 (1-1510)

Qy          1 MetGlyLysIleMetLeuValLeuGlySerLeuIleGlyLeuCysCysPheThrIleThr 20
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        300 ATGGGCAAAATCATGCTTGTTTTGGGTAGCCTCATTGGATTATGCTGTTTCACAATCACT 359

Qy         21 ThrTyrAlaPheSerProSerGlyTrpThrAsnAlaHisAlaThrPheTyrGlyGlySer 40
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        360 ACCTATGCCTTCTCACCTTCTGGATGGACCAATGCCCATGCCACTTTTTATGGGGGTAGT 419

Qy         41 AspAlaSerGlyThrMetGlyGlyAlaCysGlyTyrGlyAsnLeuTyrAlaThrGlyTyr 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        420 GATGCTTCAGGAACTATGGGGGGAGCTTGTGGGTATGGGAATCTGTATGCAACTGGGTAT 479

Qy         61 GlyThrArgThrAlaAlaLeuSerThrAlaLeuPheAsnAspGlyAlaSerCysGlyGln 80
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        480 GGAACTAGAACTGCAGCTTTAAGCACTGCCTTATTTAATGATGGAGCTTCCTGTGGTCAG 539

Qy         81 CysTyrLysIleIleCysAspTyrLysSerAspSerArgTrpCysIleLysGlyArgSer 100
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        540 TGCTACAAAATTATATGTGATTACAAATCAGACTCTAGATGGTGCATCAAAGGAAGATCT 599

Qy        101 ValThrValThrAlaThrAsnPheCysProProAsnPheAlaLeuProAsnAsnAsnGly 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        600 GTAACCGTAACTGCCACAAACTTTTGCCCTCCCAATTTCGCCCTTCCTAACAACAATGGA 659

Qy        121 GlyTrpCysAsnProProLeuLysHisPheAspMetAlaGlnProAlaTrpGluLysIle 140
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        660 GGCTGGTGCAACCCACCACTCAAGCATTTTGATATGGCCCAACCCGCTTGGGAAAAGATT 719

Qy        141 GlyIleTyrArgGlyGlyIleValProValLeuPheGlnArgValProCysLysLysHis 160
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        720 GGTATTTACAGAGGAGGGATCGTCCCCGTGCTATTTCAAAGGGTTCCATGCAAAAAGCAT 779

Qy        161 GlyGlyValArgPheSerValAsnGlyArgAspTyrPheGluLeuValLeuIleSerAsn 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        780 GGAGGGGTTAGGTTCAGTGTGAATGGGAGGGACTACTTTGAGCTAGTATTGATCAGCAAT 839

Qy        181 ValGlyGlyAlaGlySerIleGlnSerValPheIleLysGlySerLysThrGlyTrpMet 200
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        840 GTGGGGGGTGCTGGATCCATCCAATCAGTGTTCATTAAAGGCTCAAAAACTGGATGGATG 899

Qy        201 AlaMetSerArgAsnTrpGlySerAsnTrpGlnSerAsnAlaTyrLeuAsnGlyGlnSer 220
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        900 GCAATGTCAAGAAATTGGGGTTCTAATTGGCAATCCAATGCGTATTTGAATGGTCAATCT 959

Qy        221 LeuSerPheArgValThrThrThrAspGlyGluThrArgValPheGlnAspIleValPro 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        960 TTGTCCTTCAGGGTCACCACCACTGATGGAGAGACCAGAGTTTTCCAAGATATTGTTCCA 1019

Qy        241 ValSerTrpThrPheGlyGlnThrPheSerSerProValGlnPhe 255
                  ||||||||||||||||||||||||||||||||||||||||||
Db       1020 GCAAGTTGGACATTCGGCCAAACTTTCTCTAGCCCAGTTCAGTTC 1064

RESULT 3
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